

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF ALASKA

LEAGUE OF CONSERVATION VOTERS <i>et al.</i> ,)	
)	
<i>Plaintiffs,</i>)	
)	
v.)	No. 3:17-cv-00101-SLG
)	
DONALD J. TRUMP <i>et al.</i> ,)	
)	
<i>Defendants,</i>)	
)	
AMERICAN PETROLEUM INSTITUTE and STATE)	
OF ALASKA,)	
)	
<i>Intervenor-Defendants.</i>)	
)	

DECLARATION OF PAMELA A. MILLER

I, Pamela A. Miller, hereby declare as follows:

1. I live in Fairbanks, Alaska. I first came to Alaska to live in 1982. After some absences for graduate school and work, I have lived in Alaska continuously since 1996.

2. I have a B.S. in Wildlife Biology from The Evergreen State College, Olympia, Washington, and a M.S. in Journalism from the University of Oregon, Eugene, Oregon.

3. I have been a member of the League of Conservation Voters (since 1984). I am also a member of the Natural Resources Defense Council (since 1991), the Sierra Club (since 1988), Alaska Wilderness League (since 1996), the Northern Alaska Environmental Center (since 1991), and The Wilderness Society (since 1991). I rely on these groups to represent my interests in protecting the environment of the Arctic, including the Chukchi and Beaufort seas.

4. I have a decades-long professional, scientific, and recreational interest in the Arctic, including the Chukchi and Beaufort seas, and have visited the area many times from 1982 to the present, and will continue to do so. Many of the areas I have visited would be threatened by oil and gas activities and associated negative impacts from oil and hazardous spills and wastes, and noise and disruption to sensitive marine life if President Trump's revocation of President Obama's withdrawals of the Chukchi and Beaufort Seas from oil and gas activities is allowed to stand.

5. I was drawn to Alaska over two decades ago to study birds and intact, natural ecosystems. My move to Alaska was an exciting opportunity for me, as a field biologist, especially after I had studied polluted habitats in Puget Sound during college, and witnessed the ever-diminishing remnants of waterfowl and other bird habitats throughout that region. Many of which are used by Arctic-nesting bird species.

6. In 1982, I began work as a biologist for the U.S. Fish and Wildlife Service on the staff of the Arctic National Wildlife Refuge. This was the opportunity of a lifetime—to study the nesting, staging, and feeding habitats of the sandpipers, loons, seaducks, and other birds I had known from the lower 48 wintering grounds. From 1982 to 1985, I studied tundra bird habitat use on the coastal plain and populations in the coastal lagoons in the summers and for two winters was an environmental observer for seismic exploration which took place in the Arctic Refuge. These studies were used in reports to Congress about the potential impacts of oil and gas development on the Arctic Refuge coastal plain.

7. From 1985 to 1988, I worked for the Northern Alaska Ecological Services office where I reviewed the impacts of oil development projects in Prudhoe Bay and in the Beaufort Sea, conducted bird contaminant studies on the North Slope, and spent a summer in the Colville River delta as a field camp leader for a tundra bird study, and performed more work in the Arctic Refuge and along its coast in 1988.

8. I worked the summer of 1985 on waterfowl disturbance studies at the Lisburne oil field on the North Slope for Alaska Biological Research on contract to Arco Alaska, Inc. and with my own eyes saw changes to the Beaufort Sea coast from ports, causeways, offshore drilling islands, ship traffic, and similar industrial activity.

9. After leaving the U.S. Fish and Wildlife Service, I worked in Washington, DC for the Alaska Coalition. I was Alaska Representative for the National Wildlife Federation following the Exxon Valdez oil spill in 1989. I returned to Alaska in 1991 to work as Assistant Regional Director for The Wilderness Society. I moved again to Washington, DC to serve as Alaska Program Director from 1994 to 1995. From 2006 to July 2014 I served as Arctic Program

Director for the Northern Alaska Environmental Center in Fairbanks. During this time I took many trips to the Arctic National Wildlife Refuge and the Arctic Ocean.

10. Since 1996, I have owned Arctic Connections, a small environmental consulting and guiding business and operated it as a full-time consultancy through December 2005, on a part-time basis from 2006 to July 2014, and full time since then. Arctic Connections focuses on the Arctic wild coasts and wilderness and the environmental impacts of oil and gas exploration and development. Through Arctic Connections, I personally guided people unfamiliar with the Arctic to its wild places, including the Beaufort Sea, Chukchi Sea, and Arctic National Wildlife Refuge, and contrasted this with the industrialized Prudhoe Bay oil fields. Many of my clients, as well as myself, enjoyed the freedom of standing on icebergs along the coast and experiencing the bird migration, marine mammals, and fresh air. I also enjoy being outdoors for my own recreation, and particularly enjoy the beauty, wildness, quiet and rich wildlife of the Arctic land, ocean and coasts as well whenever I am able to travel there. I will continue to travel as often as possible to the Chukchi and Beaufort Seas.

11. I have professional and personal knowledge of potential oil spills from exploration and development operations in the Arctic Ocean. In 1999 and 2000, I was invited by Alaska Department of Environmental Conservation to attend required spill response drills in the Beaufort Sea. These tests were conditions of permits for the Northstar oil field development oil spill contingency plan. Going with them out in the Beaufort Sea, I witnessed the failure of industry tests of boom and skimmer operations in broken ice conditions even with very little ice. Also, the response barge that would have collected the oil got stuck in ice at the dock in October. There seemed to be a general lack of ability to carry out spill plan techniques. My participation as an invited observer on these drills was very educational and informed my basis of knowledge

regarding oil spill response procedures and the unique characteristics of weather, sea ice, fog, cold, and other Arctic limitations. Based on this experience, I am concerned that the lack of proven mechanisms to effectively clean up major oil spills in broken ice still exists.

12. I researched and was lead author for *Oil in Arctic Waters: The Untold Story of Offshore Drilling in Alaska* (1993), and *The Reach of Oil in the Arctic* (1997). I served on the Alaska OCS Region Advisory Council, U.S. Minerals Management Service (1997-2000). I provided invited testimony to the National Research Council, Committee to Review Alaskan OCS Environmental Information (1993). I have twice provided expert review of international oil and gas guidelines, (Miller, P. and S. Smith. January 2001. Review and Evaluation of Protection of the Arctic Marine Environment's (PAME) Arctic Offshore Oil and Gas Guidelines. WWF Arctic Programme. Oslo, Norway; Review of PAME Offshore Oil & Gas Guidelines, World Wildlife Fund Comments- April, 2008; Technical Analysis contributed by Pamela A. Miller, Arctic Connections, Fairbanks AK and Lois N. Epstein, P.E., LNE Engineering and Policy, Anchorage AK). In 2003, I provided invited testimony and peer-review for the National Research Council report, *Cumulative Environmental Effects of Oil and Gas Activities on Alaska's North Slope*. In 2006, I was invited to give a slide show of Beaufort Sea wildlife, Alaska Native culture and risks posed by further offshore oil and gas leasing and exploration as part of a public workshop in Anchorage. Based on these experiences, I am concerned about the risks that seismic surveys, exploration drilling, development and production in the Chukchi and Beaufort seas poses to the environment.

13. I conducted extensive research into current Alaskan North Slope and Beaufort Sea drilling practices for the report, *Broken Promises: the Reality of Oil Development in America's Arctic*, 2nd edition, published by The Wilderness Society. I researched Alaska Department of

Environmental Conservation North Slope spill records which showed on average 453 spills per year from 1996 to 2008 for total of more than 2.7 million gallons of 45 different toxic substances in more than 5,895 spills. An updated version of my original report, Broken Promises: The Reality of Big Oil in America's Arctic was included as a chapter in the book Arctic Voices: Resistance at the Tipping Point edited by Subhankar Banerjee, published in 2012. I co-authored a report, Double Trouble for Polar Bears: Melting Arctic sea ice and offshore oil development with National Wildlife Federation in December 2009.

14. I have worked with a GIS mapmaker to overlay wildlife resources such as polar bear denning areas with past Chukchi and Beaufort Sea lease sales. I have also helped to compile maps of proposed lease sale areas, many proposed seismic surveys, pipeline surveys, and offshore well locations onto maps so that the public can understand the many activities which are proposed simultaneously but are not put on single maps by the Bureau of Ocean Energy Management. We have mapped spill locations which showed that more than 400 toxic spills have taken place at offshore exploratory wells and offshore oil field developments in the Beaufort Sea. We have also mapped the overlays of polar bear habitats in the Beaufort Sea and proposed oil and gas leasing and drilling locations. These maps are posted online.

15. I was invited by the U.S. Fish and Wildlife Service to present a paper, "Ecological Values of the Arctic National Wildlife Refuge in a Changing World," at their "Historic Symposium on Arctic National Wildlife Refuge 1960-2010," in January 20, 2011. My presentation addressed the historical context as well as new concerns due to climate change that riches of the land and sea were both at risk from offshore development of the Beaufort Sea, the need for cumulative impacts study of the effects to the Arctic Refuge from activities beyond its borders.

16. On August 12, 2010, I participated in a “listening session” in Fairbanks held by federal Gulf Oil Spill Commission member Fran Ulmer, Alaska’s former Lieutenant Governor and University of Alaska Anchorage Chancellor, to review the Deepwater Horizon oil spill disaster. The session included University of Alaska Fairbanks scientists in a panel discussion, and I raised many concerns at the meeting about risks of offshore drilling in the Arctic, including baseline information needed to measure ecological damage after spills. On February 8, 2011, I attended a presentation by Fran Ulmer reporting on the findings of the National Commission on the BP Deepwater Horizon Oil Spill, including implications for offshore exploratory drilling in the Arctic and participated in the discussion.

17. I first traveled to the Beaufort Sea in 1982 when I was a biologist with the U.S. Fish and Wildlife Service. I fell in love with this sublime coast and the vast, wild ocean at that time. Since then my favorite places to visit in the Arctic have been right along the coast and the ocean.

18. In 1982, I participated as refuge staff on long-tailed duck molting studies and boated the Beaufort Sea from Kaktovik to Tapkaurak Island within the external boundaries of the Arctic National Wildlife Refuge. We camped on the island where I enjoyed photographing staging phalaropes in the surf, seaducks, loons, and other migratory birds feeding and migrating in the Beaufort Sea, and polar bear tracks on the beach. I photographed beautiful sunsets of icebergs in the untouched Arctic Ocean. I also was involved with a number of migratory bird aerial surveys of the coastal lagoons and viewed the expanse of the Beaufort Sea.

19. From 1982 to 1984 as a refuge biologist, I counted tundra birds all summer near the Okpilak and Jago Rivers and hiked to view the Beaufort Sea where the ice sparkled and loomed as tall mirages. I also spent time in the village of Kaktovik at the field station and

enjoyed walking on the Beaufort Sea beach at the north edge of the island where nearly every day I saw migratory birds and ringed seals among the ever changing pristine sea ice and one time a polar bear on the island.

20. During the summer of 1986, I conducted field studies of birds for the U.S. Fish & Wildlife Service at the Colville River delta where we accessed our study plots by zodiac boat, and often travelled out the river channel skirting the tidal mudflats of the Beaufort Sea to reach some study plots. I enjoyed boating in the open, wild waters of the Beaufort Sea. One day in early August, we took an excursion north towards the icebergs, as I accounted in my field notes at the time. The mirror-like calm blue waters enticed us to keep going towards the white band of ice in the distance. We traveled for about half an hour out into Harrison Bay and then turned off the motor as we approached a huge flock of ducks numbering about 1,000, mostly feeding surf scoters and molting long-tailed ducks that could not fly away from us. Further out, I estimated about 3,000 more ducks. Still captured under the sea's allure, we boated north about 10 more minutes seeing ringed seals, a flock of eiders, more long-tailed ducks. Finally, we touched an iceberg dripping water, greenish blue with pure white top glistening in the sun. At that point reality set in as a line of clouds gathered on the south horizon at land's edge and we tracked a compass bearing straight back to shore and camp. On the long way back shimmering, rippling ocean surrounded us. I wrote afterwards, "I cannot forget the feeling of the sky and sea as the same blue surface stretching forever beyond me." At the same time I was very sobered by the vulnerability of the Beaufort sea and its wildlife to development. I gave a slide show of this trip to the Alaska Bird Club in Fairbanks during the late 1980's as well as in more recent presentations about the area to the Anchorage Audubon Society.

21. During the summer of 1987, I traveled by U.S. Fish and Wildlife Service boat in the Beaufort Sea from Prudhoe Bay to the east, visiting barrier islands where we counted common eider and other bird nests and sampled water quality and invertebrates in the marine waters. We visited Cross Island, an historic site and subsistence whaler's camp, and many other vulnerable barrier islands where I enjoyed camping, walking the beaches at "sunset," and the scientific work.

22. I also conducted field studies of birds in the Arctic Refuge as a biologist for the U.S. Fish and Wildlife Service the summer of 1988 and had the occasion to fly many times along the Beaufort Sea coast. I took many photographs of birds, beautiful pristine broken sea ice, and open leads in July. In this job, I was reviewing oil and gas development permits and environmental documents and so I viewed the beautiful Beaufort Sea coast with a heavier heart, having more knowledge of the noise and disruption that offshore oil and gas development would bring. However, that year I was also deeply affected by the sight of huge exploratory drilling rigs offshore.

23. In 1989, I volunteered for the U.S. Fish and Wildlife Service and traveled by large boat from Prudhoe Bay to Kaktovik helping with scientific studies and I took many photographs of the coast and Beaufort Sea on that trip. On that year, I viewed drill ship support vessels in Camden Bay and, with the devastation of the Exxon Valdez spill earlier that year, I was very concerned by the industrial activity taking place in the Beaufort Sea off the coast of the Arctic Refuge. The Exxon Valdez spill was deeply upsetting to me for the loss of oiled birds and pristine shorelines. I saw the massive but chaotic and ineffectual response to the spill which hit me with its toxic fumes, dead wildlife, and assault on the wilderness. I was heart sick and also

knew from my scientific knowledge that the effects would likely continue for years – and in fact has been now documented by the long-term investigations.

24. I returned to the Beaufort Sea coast off the coast of the Arctic National Wildlife Refuge many times in the 1990's and 2000's. From 1996 to 2005, I guided many trips to the Beaufort Sea coast, including at Marsh Creek mouth viewing Camden Bay and at the Turner River mouth, and on many trips we started or ended the trips at Kaktovik where we walked the beach. On one trip the pilot landed on a barrier island and we viewed the ocean to the north and saw polar bear tracks. I traveled to Kaktovik and viewed congregations of polar bears feeding at the whale bone pile at the tip of Barter Island, and dozens out on Arey Island. In late fall, I viewed from a distance where a polar bear mother had emerged from a den at Manning Point and traveled across the sea ice. From my many trips, I have made copies of some photographs available for use by the Alaska Wilderness League, Natural Resources Defense Council, Sierra Club, and other organizations for slide shows and these continue to be used to the present. I have also sold some photographs as part of my business.

25. I visited the Beaufort Sea north of the National Petroleum Reserve-Alaska in August 10-12, 1998, as a volunteer with Dr. Jon Bart of the U.S. Geological Survey, Biological Research Division, who was conducting initial work for a study of shorebird habitats in the Fish Creek area of the National Petroleum Reserve-Alaska. We traveled by Zodiac from a field camp in the Colville River delta to from the coast out in Harrison Bay then west of Fish Creek to view the salt marsh habitats, then back and up Fish Creek where we camped. I recorded information about birds, vegetation, and habitats on study plots in field notes, including about birds out in the Beaufort Sea. I took photographs on the trip including of the coastal salt marshes where the geese were feeding and along Fish Creek which I presented at an educational meeting of the

Anchorage Audubon Society. I later wrote of my experiences for the newsletter of the Alaska Wilderness League. I had several purposes for that trip. I wanted to explore new areas of the Arctic, and to experience the sound of the loons and other waterfowl on the Colville delta again because of it holds a special place in my heart. I also wanted to see that area once again before it was completely overrun with pipelines and other facilities for oil development. The trip also was an investment in my business as I wanted to enrich my understanding of the Arctic ecosystems by seeing other lands within the Reserve and Arctic Ocean in order to enhance my professional expertise of the arctic and to write articles about the changes transforming this wild landscape. I also wanted to see first hand some of the places that could be harmed by oil development.

26. In 1999 and 2000, I was invited by Alaska Department of Environmental Conservation to attend required spill response drills in the Beaufort Sea. These tests were conditions of permits for the Northstar oil field development oil spill contingency plan. Going with them out in the Beaufort Sea, I witnessed the failure of industry tests of boom and skimmer operations in broken ice conditions even with very little ice. Also, the response barge that would have collected the oil got stuck in ice at the dock in October. There was a general lack of ability to carry out spill plan techniques, as I described in two followup reports on the drills. The lack of a mechanism to clean up major oil spills in broken ice still exists.

27. On August 1, 2000, I flew with a group from Nuiqsut to do aerial photography and appreciate the vast wetland landscapes of Teshekpuk Lake and other areas. We traveled over the Beaufort Sea north of the edge of the Teshekpuk Lake goose molting and caribou areas, flying at roughly 4500' above ground level. One could appreciate the vast open Arctic Ocean and the vulnerability of the coastal habitats where lakes are eroding into the ocean. We also got a good perspective of the long lakes just barely above sea level used by the geese during molting.

Along the Beaufort Sea coast, the pilot pointed out an old staging area used for the Beaufort Sea OCS dry hole, Mukluk, drilled back in the 1980s and there was still old junk there from that time, in stark contrast to the pristine Teshekpuk wetlands, lakes, and Beaufort Sea coastline. We could also see and photograph caribou trails along Kogru Inland and Beaufort Sea coast, again showing their link to the coast, vulnerability to sea level rise and potential offshore spills. Some of my photographs from this trip were used on the web sites and in slide shows of the Northern Alaska Environmental Center and the Natural Resources Defense Council.

28. I traveled to Utqiagvik (Barrow) for an Arctic Council meeting and walked along the Chukchi Sea coast for the first time in 1998. I returned to Utqiagvik in 2000, and again walked the Chukchi Sea coast; I specifically remember walking past Browerville where I photographed polar bear prints in the snow and saw the moving broken ice present and forming shorefast ice with open water beyond along the shore north of Utqiagvik at that time.

29. In July 10, 2001, I participated in a tour of Alpine and Prudhoe Bay with the National Research Council as part of their study on cumulative environmental effects of oil and gas activities on Alaska's North Slope. From the flight, I enjoyed briefly seeing the Beaufort Sea north of the Colville River delta and vast wetlands and other natural landscapes of the National Petroleum Reserve-Alaska. Many of the scientist participants were shocked at the large expanse of the North Slope oil facilities, even the newest Alpine field.

30. On August 31, 2002, I traveled with friends by boat from Nuiqsut to the historic site, Nannie Woods camp, near the mouth of the Nigliq (western Colville River) channel where it enters the Beaufort Sea. It has a beautiful view of the ocean and land to the west. Afterwards, because it was too late to return to town, we stayed overnight at a friend's cabin in the Colville River Delta where I enjoyed the loons calling (many fly out to feed in the Beaufort Sea). But I

was disturbed by the Alpine oil field, including the drilling rig, the huge planes lumbering in, helicopters, scarred land from seismic trails, and the rumble of the production facility and drilling creeping into the lulls between gusting wind.

31. In June 2002, I toured the Beaufort Sea coast while guiding a media group from the Canadian Broadcasting Corporation. We saw eroding shorelines of Barter Island where the old DEWLine dump, old barrels, metal tracked vehicle tracks, and overhanging tundra peat where permafrost ice and ice wedges melted below, and glistening midnight sun accented muddy channels carrying melting permafrost onto the beach. I photographed icebergs in the Beaufort Sea that were later published by Earth Island Journal and The Northern Line, the quarterly newsjournal of the Northern Center. Afterwards, we went to Prudhoe Bay where the industrial infrastructure was evident along the shoreline and intruding into the ocean as far as the eye could see on the flight in.

32. In June 2003, I traveled to the Beaufort Sea coast of the Arctic Refuge where a moat of open water hugged the coast line and beyond there was much broken ice in the Beaufort Sea. I guided Chicago Tribune reporters to the Kongakut River, and flying enroute to the Jago River we landed on a barrier island where we saw fresh polar bear tracks. The sea ice was just a short distance away from the barrier island, and in the lagoon it was melting. In July 2003, I guided a trip to the Katakuruk River in the Arctic National Wildlife Refuge. At the end of the trip we flew into Kaktovik and viewed the Beaufort Sea.

33. In September, 2003, I guided a TV documentary crew to Prudhoe Bay and then to Kaktovik where I photographed congregations of polar bears feeding on the bowhead whale bone pile in the darkness.

34. In June 28, 2004, I guided a trip to the Turner River mouth at Demarcation Bay in the Beaufort Sea where we photographed each other on small icebergs along the shoreline; the ocean had much broken ice. The shoreline tundra was curved into long tongues hanging over indentions where the ice wedges had melted out. Forget-me-nots, arctic poppies and other flowers brightened the coastal tundra overlooking the bay. We saw amphipods, storm surge logs, caribou on ice chunks in a sheltered edge of the bay. It was beautiful clear weather and we felt so happy and free walking along the beach. We identified plants, birdwatched, and discussed the ocean environment and climate change as well as risks of oil spills from ocean drilling to this protected wilderness Bay within the Arctic Refuge and to the Beaufort Sea.

35. On July 6, 2004, I took a guided hiking group to Kaktovik where we stayed overnight and walked along the Beaufort Sea beach and past Kaktovik Lagoon dotted with subsistence boats.

36. In August 2004, I returned to the western Beaufort Sea with two reporters and other visitors. We traveled to Nuiqsut and then to Utqiagvik (Barrow) on the Chukchi Sea, and we did flight-seeing enroute. Due to poor weather, there was little opportunity for photography but I enjoyed seeing Peard Bay and the coast near Utqiagvik. We toured Point Barrow, and saw white-winged scoters, glaucous and Sabine's gulls, ruddy turnstones, black guillemots, Pacific loons, and ringed seals in Peard Bay and other birds in the area where the Chukchi and Beaufort Seas meet.

37. On July 15, 2005, I traveled to Nuiqsut with another photographer. We boated the Nechilik Channel of the Colville River past the Alpine oil development with a local resident who told us about the anadromous fishery of the Colville River and pointed out impacts of the industrial site.

38. I visited the Chukchi Sea coast at Point Hope in August 23-24, 2005 where there was a narrow band of open water and sea ice right against the beach. On beachcombing walks I saw many bones, starfish, and bird feathers. I bought a beautiful woven baleen basket topped with a whale fluke from one young artist in town and a mask carved of whalebone and trimmed with feathers and fur from another. I met with the tribal council. I toured the ancient and old village sites as well as the cemetery where bowhead whale jawbones were prevalent. The bowhead whales migrate along this coast, through the Chukchi Sea and then to the Beaufort Sea. I was guided down into a subterranean sod house with whalebone supports for the walls and roof and was told about the long history of the culture of this village. On August 26, 2005, I flew along the coast –largely free of ice– to Kotzebue.

39. In July 5-6, 2006, I returned to Point Hope. On the flight in from Kotzebue, there was much broken ice, in tiny pieces and medium size icebergs, as well as leads visible as we approached the village. One could still walk on sea ice and hunters could not depart in their boats right off the coast from Point Hope. On this trip, the tundra flowers were spectacular, with phlox, forget-me-nots, wooly lousewort and dozens of kinds of wildflowers. On the beach ice formed where the surf lapped ashore. But the next day there was much open water and many large ice chunks along with many long-tailed duck feathers washed up on the beach. When I departed for Kotzebue, I saw much broken ice.

40. In July 12-13, 2006, I traveled to Utqiagvik (Barrow) for the Inuit Circumpolar Conference meeting that included Inupiaq dancing, blanket toss, a whaling umiaq boating demonstration, and many presentations. I attended a presentation at the library by author Riki Ott on the long-term human health and environmental impacts of the Exxon Valdez spill. On a beach walk I saw much broken ice slammed up against the shoreline and some open water channels.

The ice was melting quickly. I made beautiful photographs of the sublime light on the Chukchi Sea waters and icebergs, translucent in the sun. I toured the ice cellar of a local leader and heard concerns that many such cellars are melting due to climate warming. I stayed with a local family and appreciated the modern day subsistence livelihood with family members coming and going from seal hunting, duck hunting, berry picking, and other gathering.

41. In November 15-16, 2006, I again visited the Chukchi Sea coastline at Point Hope where waves of open water had washed up tiny starfishes and strands of snow lined the beach. I attended a public meeting held by the Minerals Management Service about Chukchi Sea lease sale 193 in which the agency had piggy-backed an expedited scoping session for the new Five Year plan. I listened to village speakers and spoke at the hearing. The next morning, I walked the beach again where low angle sun glistened on the water and a glaze of ice bound together stones on the beach.

42. In September 19-20, 2007, I again visited the Chukchi Sea, where it meets the Beaufort Sea, on another trip to Utqiagvik (Barrow) for the North Slope Borough Oil and Gas Forum. This year, the ice was so far offshore it could not be seen. I walked along the beach where jelly fish and a dead glaucous gull had washed up and where the huge sandbags for beach erosion control had been pushed out of place, no longer protecting the houses. At the meeting, I heard many moving testimonies about the risks of oil drilling to the marine life of the ocean and the people who depend on it for their culture and way of life.

43. On April 11-12, 2008, I visited Kaktovik for a public hearing. Skies were bright blue and land fast sea ice rough icebergs sparkled in the Beaufort Sea during the flight in. On April 12, I took a walk along the Beaufort Sea shoreline of Barter Island and photographed extensive coastal erosion of the bluffs.

44. On Feb 16-18, 2009, I again visited Kaktovik for a public meeting. Arrival day was clear so from the coast the view of the Brooks Range across the coastal plain of the Arctic Refuge was spectacular. By the next morning strong winds blew in and the challenges such weather poses to visibility and the challenging logistics of oil spill clean up operations was evident. On the morning of Feb 18, I hiked along the Barter Island shoreline and took extensive photographs of dramatic coastal erosion – the evidence of the rapid global climate change impacting the area.. I also photographed ridged lines of ice from what may be an ancient buried glacier as recently described by scientists. I searched for polar bear tracks and was on alert for bears which would have just emerged from their dens, but I did not view any on this trip.

45. I was invited to Point Hope along the Chukchi Sea coast from July 13-18, 2009 to attend workshops hosted by the Native Village of Point Hope and the North Slope Borough/ Northwest Arctic Borough Economic Development summit. During the evenings after workshop and conference activities such as viewing historical films about Point Hope culture, traditional drumming, singing, and dancing, I enjoyed beachwalks, hiking, photography and birdwatching along the Chukchi Sea coast. I viewed starfish and shark egg cases; eiders, long-tailed ducks and other birds flying by; carved rock cultural artifacts, and enjoyed the endless ocean horizon and crashing waves. I searched for whales that my friends had seen earlier in the day. I visited with local friends on the beach while they caught flounder and salmon from the ocean. As they studied the ocean's surface for traveling fish movements, I gained an even better appreciation of the deep knowledge of the Arctic Ocean held by the Inupiat residents who depend on this area for their subsistence way of life. For my last night in Point Hope, I walked for eight hours through the midnight sun, on the beach and then on the adjacent tundra where blossoms like blue forget-me-nots, yellow cinquefoil, and other flowers were brilliant. This experience of spending

a week along the Arctic coast renewed my spirits and my professional commitment to protecting the ecological integrity of the wild Chukchi and Beaufort seas and their nearshore waters and tundra shores.

46. On May 19 and 20, 2010, I visited Kaktovik for meetings. On the flight north, the beautiful Brooks Range mountains within the refuge were stunningly beautiful, but thick coastal fog slammed up against them and therefore the pilot could not land at the Kaktovik airport along the Beaufort Sea (also foggy as far as one could see), so we diverted west to Deadhorse and waited for hours until the weather improved enough to try again. Finally we landed in Kaktovik, you could see the jumbled ice and pressure ridges along the Beaufort Sea coastline. While in Kaktovik, I attended a public meeting and also attended a meeting of local polar bear guides and learned how climate change poses challenges to them and listened to their discussion of their efforts to improve interactions between visitors and the bears. This meeting was shortly after BP's *Deepwater Horizon* blowout in the Gulf of Mexico from offshore exploratory drilling, and I spoke with many Inupiaq residents of Kaktovik who expressed concern about how disastrous such a spill in the Beaufort Sea would be to the ocean and their way of life. While walking through the community and along the Beaufort Sea shoreline during this visit, I saw bowhead whale bones and much evidence of the connections of the people with the ocean.

47. On January 10-12, 2011, I visited Utqiagvik (Barrow) along the Chukchi Sea at the invitation of the Inupiat Community of the Arctic Slope for an environmental justice conference focused on Inupiat environmental and cultural effects of Arctic offshore oil and gas. My invited presentation addressed mapping of spills, pipelines, seismic, and other infrastructure and activities in the Arctic over decades along with information about wildlife migrations and human health impacts. The sun remained a deep rosy glow on the northern horizon and enjoyed

its beauty and appreciated the complexity of the Arctic Ocean sea ice during many walks along its shores. I enjoyed many Inupiaq songs and dance presentations which renewed my deep appreciation for the cultural ties of the coastal residents to the Beaufort and Chukchi seas as well as my sense of how lucky I am to interact and learn from the amazing people the value this place and culture which so contributes to our national heritage as Americans.

48. During August 6 to 12, 2011, I visited the Arctic National Wildlife Refuge for a personal camping trip. We flew over the Brooks Range in a small plane and witnessed glaciers which have shrunk dramatically since I first saw them in the 1980's. We flew down the Hulahula River and north of the mountains the refuge's natural and narrow coastal plain swept before us as the river flowed all the way to the deep blue Beaufort Sea in a seamless expanse of unbroken ecosystems from land to sea. I could see the ocean as far west as seaward of the Canning River and east toward Canada. I cried. I was so happy to see this beautiful place and so happy that it still remained a pristine landscape and sea. There is nothing more important to me in the world, besides the love of my family, than to sustain this unique protected Arctic land and its connected sea. During the trip, we climbed ridges along the Aichilik River with vantage points where we could see the wild Beaufort Sea with sea ice sparkling in the sun. I took many photographs on this trip.

49. I plan to visit the Arctic, including the Chukchi and Beaufort Sea regions into the future, as I have often in the past. I plan a trip to Kaktovik during August or September 2018 focused on migratory bird, polar bear and other marine life viewing along the Beaufort Sea. I will boat and walk the beaches, look for whales, seals and birds. I look forward to enjoying the beautiful shores, searching for animals like bowhead whales, ringed seals, and keeping a watchful eye for polar bears. The peaceful Beaufort Sea coasts in this area have brought me great

joy on earlier trips and I look forward to the solace of its natural quiet and viewing the vast horizon across the wild Arctic sea as well as watching the activities of wildlife that concentrate there. On future trips, I intend to camp along the shores of the Beaufort Sea in the Arctic Refuge as I have other times in the past (although polar bears increasingly come ashore now to feed in the fall so special planning would be necessary), to experience the red-throated loons uttering their aching cry as they fly from tundra nests to the Beaufort Sea where they catch fish to bring back to their young ones. In July and August clean waters dotted with phalaropes kicking their feet to stir up food in the productive waters will be seen in lagoons and bays while other migratory birds like eiders, scoters, and long-tailed ducks are likely to be seen as they fatten up for to their migrations south. These experiences would be disturbed by offshore oil seismic or drilling and the associated helicopters, boats, and ice-breaker vessels and air or water pollution.

50. On the Chukchi, I plan a trip to one of the communities such as Point Hope or Utqiagvik in summer 2019. I look forward to seeing the vast, open ocean where large waves crash ashore and visit with friends who have shown me features, such as four or more currents running simultaneously within view. The Chukchi coast is quiet with clean water and pure air.

51. I am very concerned about President Trump's attempted revocation of President Obama's withdrawal of the Beaufort and Chukchi seas from oil and gas leasing, development, and production. I was excited that President Obama removed the Beaufort and Chukchi seas from oil and gas leasing, exploration, and development because it meant that the ecosystems and wildlife I enjoy would be protected and preserved. I am worried that President Trump's attempt to revoke President Obama's action supports and encourages the resumption of oil and gas activities in the Arctic Ocean and that those ecosystems and wildlife will be harmed as a result. I was grateful for President Obama's action because it protected sensitive areas of the Beaufort

and Chukchi Seas that I have experienced in the past and plan to enjoy in the future. Furthermore, for decades, I have been involved in public processes listening to northern coastal residents' concerns about the risks offshore drilling and seismic exploration pose to their subsistence livelihood. Time and time again, I have shared my professional and personal knowledge about the sensitivities of migratory species of fish, birds, polar bears, seals, whales and other marine mammals and their vital habitats, and expressed my concerns about the devastation that could result from oil and gas activities to the cultural way of life of coastal residents and migratory life enjoyed by Americans far from these Arctic seas. After many decades of the public raising concerns about vast leasing of the Beaufort and Chukchi Seas only for offshore agency bureaucrats to ignore and brush them aside, it was such a relief that President Obama listened to our valid concerns and scientific information to protect the environmentally sensitive areas in the withdrawals.

52. The Arctic coastline is a beautiful place that I am deeply concerned will be damaged by oil leasing and development. Oil and gas seismic, drilling, production and associated infrastructure and activities could permanently alter the currently unspoiled environments of Chukchi and Beaufort seas, and these industrial activities pose serious threats to the health of the ocean and the adjoining coastal and terrestrial habitats and the dependent species and traditional ways of life. Exploration and development will introduce new noise and pollution sources, including those from vessel and air traffic, and drilling rigs. There could be oil spills that could degrade the water quality and risk of major spills killing birds that could wash up along the shorelines. The ports along the shoreline or in the ocean at the drill platforms to support refueling or even oil tankers full of crude oil from which devastating spills could kill birds, polar bears, seals, whales and walrus. And the effects on wildlife and the ecosystem and fisheries from such

a spill could linger for decades, as they have from the Exxon Valdez spill and still continue to this day. Oil pipelines could be vulnerable to breaks along the shoreline, potentially causing disastrous spills killing migratory birds, seals, whales and polar bears and having long-term damage to the Arctic environment. In the event a major spill does occur, I am concerned that polar bears could be oiled and die in large numbers or the bears' critical habitat could be compromised by a spill.

53. My visits to the Arctic will not be enjoyable, or as professionally rewarding, in the future if the whales, walrus, and seals are harmed by oil and gas exploration and development activities or if migratory birds, polar bears, and pristine coastlines are fouled by oil. Past drilling discovered oil at both the Kuvlum and Hammerhead areas (now called Sivulliq) in the Beaufort Sea so the risk of an oil spill is not hypothetical – it is very real to me. I would be heart-broken if the pristine ocean and coastlines are despoiled by oil.

54. Would I return to enjoy and take photos of drill rigs, noisy seismic boats and dead animals killed by spills? I do not look forward to that. While over the past decades I have taken photos of both industrial operations to record air and water pollution at Prudhoe Bay, the Exxon Valdez spill and other places, I far prefer the experience of trying to capture the subtle beauty of natural arctic coasts and wild tundra in photographs so that others can be educated about their importance. Harmful impacts from oil and gas activities could reduce my chances of seeing the remarkable concentrations of wildlife on future visits and increase my overall uncertainty that the riches of wildlife and pristine environments that I have experienced throughout my adult life will be around when my nieces and nephews reach my age.

55. My enjoyment of the Chukchi and Beaufort seas will also be adversely affected by increased traffic, other industrial sounds and sights, and fouled air from pollution permitted

from drill ships and support vessels that might scare away the birds and marine mammals so that I am less likely to see them in the future. My concerns are amplified by President Trump's action to rescind the Beaufort and Chukchi Sea withdrawals because the entire Arctic Ocean is now at stake again for oil and gas activity. President Trump's action is a stark erasure of scientifically justified protective measures for the Chukchi and Beaufort seas, measures which culminated from over a decade of my public participation in processes that clearly identified environmentally sensitive Arctic Ocean and coastal areas where negative oil and gas effects would be too high.

56. Climate change in the Arctic has proceeded at a such magnified pace. Oil and gas development will contribute to greenhouse gas emissions, which will in turn lead to increased climate warming, coastal erosion, permafrost melt, sea ice loss and ocean acidification. Climate warming and ocean acidification has and will profoundly change the Arctic marine and onshore environments, and the fish, marine mammals, birds, and other wildlife species that rely upon them. I am concerned about the potential consequences from climate warming and ocean acidification on the Beaufort and Chukchi seas, their adjoining coasts and onshore areas, and their wildlife. I have witnessed the changes in the sea ice conditions over the past three decades in the Beaufort Sea from repeated trips to the region and understand that dynamic sea ice conditions will still pose risks to offshore drilling and boat operations including spill cleanup which remains ineffective to impossible in most conditions. Fish and wildlife like polar bears and seals already face loss of habitats and food resources in the Arctic seas due to climate change, so further stresses and impacts from habitat loss, noise and disturbance, and pollution would have cumulative effects on the animals and the environment. I am concerned that these

impacts would diminish my ability to use and fully enjoy the Beaufort and/or Chukchi seas ecosystems.

57. The vulnerability of the Arctic ecosystem, and the wildlife that rely upon it, to the negative effects of climate change on the Arctic ecosystem was highlighted by President Obama as justification for withdrawing the Chukchi and Beaufort seas from oil and gas activities. Furthermore, a myriad of environmental studies and public processes showing the impacts and threats of rapid climate change on the Arctic over the past decade undergirded the Beaufort and Chukchi seas withdrawals. I am concerned about President Trump's action to toss aside the more precautionary course of action, which took into account climate change, in favor of pursuing an agenda that will fuel huge new sources of greenhouse gas emissions. I am concerned the risks from the potential extraction of billions of barrels of oil and gas from the Arctic Ocean would harm not only the Arctic seas directly but also yield far-reaching climate change effects across the Arctic and the nation.

58. I would be heart-broken if the pristine ocean and coastlines are despoiled by oil and the continued acceleration of climate warming and ocean acidification. In my mind, I can put a picture the exploration and development infrastructure in my mind and hear the industrial noise in my ears prior to it all happening. As I look through my pictures of the beautiful Chukchi and Beaufort seas coasts and memories of my many trips flood in, it hits me that I might never again see these open ocean waters and ocean breezes as clean and free of industrialization as they are today, free of oil rigs, armadas of drilling and seismic support vessels, including ice breakers, fleets of helicopters and other aircraft supporting the operations from land.

59. In 1997, the Minerals Management Service approved an exploration plan for drilling 1-2 wells ("Warthog") in Camden Bay in the OCS. The approved plan said the bottom-

founded drill rig would be moved away after drilling was completed in 1997. Incrementally due to economics, sea ice conditions, etc. the corporation got extensions until the rig was finally moved over to another location in the Beaufort Sea in the year 2000. Each time I saw that rig for the five year period it was sitting off the coast of the Arctic National Wildlife Refuge, I was distressed that it was still there. It was concrete evidence that the exploration impacts were greater than were initially predicted. Furthermore, this past experience worries me that when oil and gas exploration activities resume in the Arctic Ocean, the rigs will never leave and the wild ocean will be lost.

60. I have been personally affected by the impacts of past drilling in the Beaufort Sea. From my research and involvement in these issues, I know that when many wells were drilled, using drill ships, icebreakers, and seismic testing, as at Kuvlum and Hammerhead in Camden Bay in the Beaufort Sea, strong scientific documentation (including traditional knowledge) showed that the industrial activities disturbed the bowhead whales in fall migration. The bowhead whales were pushed much farther offshore and this harmed the subsistence hunt.

61. Intensive seismic surveying is likely to be the first industrial activity that may occur in the Beaufort and/or Chukchi seas, and therefore would result in a more immediate ability to use and fully enjoy the Beaufort Seas and their wildlife. Seismic exploration involves extensive vessel traffic and use of loud air guns that create under-water noise pollution may cause displacement or harm to fish, marine mammals, and birds, including endangered and threatened species. Nearer to shore, on-ice seismic during winter can displace polar bears and crush their dens (most of which are not discovered prior to surveys). During on-ice seismic operations in the Beaufort Sea, ringed seal lairs and breathing holes in the ice where they raise their pups have been crushed and animals died. I am concerned that the natural behaviors or

polar bears, seals, and other wildlife would be altered and animals injured due to seismic surveying. Such impact would combine with climate change impacts the wildlife and their habitats are already facing such as diminished rate of polar bears denning on sea ice and reduced Beaufort Sea populations.

62. Marine noise is known to cause disturbance in marine life, including whales, seals, Pacific walrus, and fish. Oil and gas activities also threaten the Chukchi Sea region with oil spills and other pollution that could have devastating effects on sensitive marine organisms and birds, including endangered bowhead whales and threatened spectacled and Steller's eiders and polar bears.

63. I am also concerned about the potential degradation of Chukchi Sea coastal areas, including Kasegaluk Lagoon, and other inter-tidal and terrestrial habitats within the National Petroleum Reserve-Alaska (Reserve) from potential oil spills and onshore activities associated with offshore exploration and development, including aircraft overflights, water and gravel withdrawals, roads, pipelines, and other infrastructure. These onshore areas provide important calving and insect-relief habitat for the Western Arctic Caribou Herd, critical polar bear denning habitat, as well as nesting, feeding, and staging habitats for many bird species.

64. I am concerned that oil exploration and development activities in the Chukchi Sea also pose risks to migratory species on their route to and from their habitats in the adjacent Beaufort Sea.

65. I am concerned that offshore oil and gas operations in the Beaufort Sea also will reach across boundaries of land and sea with direct and cumulative impacts from pollution, spills, infrastructure and noise disturbance (e.g. pipeline land falls, shorebases, gravel mines, flight routes, ice roads, permanent roads, ports, etc.) The direct and combined effects from

offshore seismic, exploration and development threaten the integrity of nearshore, rivers, coastal and tundra migratory birds, fish and wildlife habitats and migrations, and subsistence resources of the Coastal Plain of the Arctic National Wildlife Refuge and in the Teshekpuk Lake Special Area (NPR-A). I plan to continue returning to the area into the future. Yet if the Chukchi and Beaufort seas become industrialized by oil development, my continued use would be for professional interest and knowledge and not for the more important reasons for me – that this is an irreplaceable wild land and ocean that gives the deep rejuvenation of my spirit and that provides unique conservation and cultural values to the world. My future recreational, scientific, and professional interest in the wildlife and habitats of the Chukchi and Beaufort seas, and the Arctic Ocean as a whole, will be irreversibly harmed.

66. My longstanding love of the birds that feed, molt, and migrate in the Chukchi and Beaufort seas and elsewhere along the Arctic Ocean coast and nest in adjacent coastal areas, and the wildness of their natural ecosystem is the basis for my involvement in professional and volunteer efforts to provide better protection for the Chukchi and Beaufort seas, and the adjacent coastal wildlife and wilderness habitat in the Arctic National Wildlife Refuge, and to prevent harm from oil and gas exploration and development.

67. My experiences visiting the area in the future will be degraded by the industrial use of the area and the increased risk of oil spills that could devastate the wildlife. Even though I plan at this time to return in the future, if development proceeds, I would not be excited about returning because it will no longer be a wild Arctic Ocean that feeds my soul, or a place that I would be interested in taking other people to on guided trips or my personal vacations. I'm concerned that oil and gas exploration and development will put at great risk from oil industry

disturbances and spills the migratory birds I have enjoyed watching all of my adult life, and irreplaceably degrade the wild Chukchi and Beaufort seas.

I declare under penalty of perjury that the foregoing declaration is true and correct.

Dated: May 31, 2018

By: Pamela A. Miller
Pamela A. Miller